DIRECTORATE OF EDUCATION, GNCT of Delhi
ANNUAL SYLLABUS
CLASS: VIII (2026-2027)
SUBJECT: MATHEMATICS

For Term I, refer to class VIII Mathematics NCERT textbook, Part I				
Chapter Name	**Content**	**Curricular Goal & Curricular Competency**	**Suggestive Learning Outcomes**	**Suggestive Activities**
Chapter 1 A SQUARE AND A CUBE	Introduction, Square Numbers, Cubic Numbers, A Pinch of History	CG-1 Understands numbers and sets of numbers (Whole numbers, Fractions, Integers, and Rational numbers) looks for patterns, and appreciates relationships between numbers. C-1.1 Develops a sense for and an ability to manipulate (e.g., read, write, form, compare, estimate, and apply operations) large whole numbers of up to 10 digits and expresses them in scientific notation using exponents and powers. C-1.3 Explores and understands sets of numbers such as whole numbers, fractions, integers, and rational numbers, and their properties. C-1.4 Represents rational numbers in decimal form as an extension of the Indian system of numeration `past the decimal point'. C-1.5 Explores the idea of percentage and apply it in solving problems. C-1.6 Explores and applies fractions (both as ratios and in decimal form) in daily life	The learner : • identifies and differentiates square numbers and cubic numbers • identifies patterns in square numbers and cubic numbers and relates them with odd numbers • find square roots and cube roots of numbers	• Ask students to stand in the form of square and cube for any given number • Ask them to find cube root and square root y counting sides
Chapter 2 POWER PLAY	Experiencing the Power Play, Exponential Notation and Operations, The Other Side of Powers, Powers of 10, Did You Ever Wonder?, A Pinch of History		The learner : • Uses laws of exponents • Express numbers in standard form • solve problem based on exponents and powers	• Express using exponent ➢ your age in seconds ➢ population & area of your country ➢ number of red blood cells in human body
Chapter 3 A STORY OF NUMBERS	Reema's Curiosity, Some Early Number Systems, The Idea of a Base, Place Value Representation		The learner : • Collects knowledge about origin of numbers • Identifies different number systems across the globe	• Analyze notion of base used in different number systems • Card games to identify numbers in different

		situations CG-2 Understands the concepts of variable, constant, coefficient, expression, and (one variable) equation, and uses these concepts to solve meaningful daily life problems with procedural fluency. C-2.1 Extends the abstract representation of a number in the form of a variable or an algebraic expression using a variable. C-2.2 Forms algebraic expressions using variables, coefficients, and constants, and manipulates them through addition, subtraction, and multiplication. C-2.3 Poses and solves linear equations to find the value of an unknown, including to solve puzzles and word problems. C-2.4 Develops own methods to solve puzzles and problems using algebraic thinking CG-3 Understands, formulates, and applies properties and theorems regarding simple geometric shapes (2D and 3D). C-3.1 Describes, classifies, and understands relationships among different types of two and three-dimensional shapes using their defining properties/attributes. C-3.2 Knows properties of lines, angles, triangles, quadrilaterals, and polygons, and applies them to solve related problems. C-3.3 Identifies attributes of three-dimensional shapes (cubes, parallelepipeds, cylinders, cones, etc.) and uses two-dimensional representations of	• Applies mathematical operations on different number systems	number systems
Chapter 4 QUADRILATERALS	Rectangles and Squares, Angles in a Quadrilateral, More Quadrilaterals with Parallel Opposite Sides, Quadrilaterals with Equal Sidelengths, Playing with Quadrilaterals, Kite and Trapezium		The learner : • Solve problems related to angles of quadrilateral using angle sum property. • Verify properties of parallelogram and establishes the relationship between them through reasoning. • Generalize properties of different types of quadrilaterals.	• Identify different quadrilaterals in your surroundings • Join two triangles to form different quadrilaterals • Paper folding & cutting activity to prove ➢ Angle sum property of quadrilaterals ➢ Exterior angle sum property of polygons
Chapter 5 NUMBER PLAY	Is This a Multiple Of?, Checking Divisibility Quickly, Spreadsheets, Digits in Disguise		The learner : • Identifies properties of factors and multiples • check the divisibility of the given number by 3,6,9 and 11 • finds digital roots of a number • creates puzzles using digits combinations	• Card games to differentiate factors and multiples • Trick puzzles based on divisibility • Digital roots of numbers associated with students like their house number, mobile number, vehicle number etc.
Chapter 6 WE DISTRIBUTE, YET THINGS MULTIPLY	Some Properties of Multiplication, Special Cases of the Distributive Property, Mind the Mistake, Mend the Mistake, This Way or That Way, All Ways Lead to the Bay		The learner : • forms different identities using properties of addition, subtraction and multiplication • applies these identities in solving daily life problems	• Prove following identities through paper cutting ➢ $(a+b)^2 = a^2 + 2ab + b^2$ ➢ $(a - b)^2 = a^2 - 2ab + b^2$ ➢ $(a + b)(a - b) = a^2 - b^2$
Chapter 7 PROPORTIONAL	Observing Similarity in Change, Ratios, Ratios in their Simplest Form,		The learner : • differentiates between ratio and proportion	• Find the ratio of female to male members in your extended family.

REASONING-1	Problem Solving with Proportional Reasoning, Sharing but Not Equally!, Unit Conversions	three dimensional objects to visualise and solve problems. C-3.4 Draws and constructs geometric shapes such as lines, parallel lines, angles, and simple triangles, with specified properties, using compass and straightedge	• expresses given information into ratio and proportion and finds the missing quantity	• Check if your height and weight are in proportion with your friends

- **The above content must be completed for Mid Term Examination by 5th September, 2026.**
- **Mental Maths & Maths Lab Activities**
- **Revision of syllabus for Mid Term Examination.**

MID TERM EXAMINATION

For Term II, refer to class VIII Mathematics NCERT textbook, Part II

Chapter Name	Content	Curricular Goal & Curricular Competency	Suggestive Learning Outcomes	Suggestive Activities
Chapter 1 FRACTIONS IN DISGUISE	Fractions as Percentages, Percentage of Some Quantity, Using Percentages	CG-4 Develops understanding of perimeter and area for 2D shapes and uses them to solve day-to-day life problems. C-4.1 Identifies, selects, and uses units of appropriate size and type to measure and examine the relationship between perimeter and area for 2D shapes (both regular and irregular shapes). C-4.2 Discovers, understands, and uses formulas to determine the area of a triangle, parallelogram, and trapezium, and develops strategies to find the areas of more complex 2D shapes. C-4.3 Explores and uses Baudhayana's Theorem on right triangles and other fundamental geometric theorems to solve puzzles and everyday problems. C-4.5 Develops the notion of fractal and identifies and appreciates the appearances of fractals in nature and art in India and around the world CG-5	The learner : • Defines and identifies percentages • Converts Fractions and decimals into percentages and vice-versa • Expresses different quantities into percentages and compares them • Applies the concept of percent in profit and loss situation, in finding discount, GST and compound interest.	• Conversation between friends (Role play) to understand profit/loss % and interest. • Connect the concept and procedure to get result • Communicate in terms of fractions & percentage
Chapter 2 THE BAUDHAYANA-PYTHAGORAS THEOREM	Doubling a Square, Halving a Square, Hypotenuse of an Isosceles Right Triangle, Combining Two Different Squares, Right–		The learner : • relates the sides of a right angled triangle • differentiates these sides as sidelengths and hypotenuses • identifies Baudhāyana-	• Draw a square and compare its area with the square having sides equal to its diagonal • Draw a right angled triangle and

	Triangles Having Integer Sidelengths, A Long-Standing Open Problem, Further Applications of the Baudhāyana - Pythagoras Theorem	Collects, organises, represents (graphically and in tables), and interprets data/ information from daily life experiences. C-5.1 Collects, organises data, and applies measures of central tendencies such as average/mean, mode, and median. C-5.2 Selects, creates, and uses appropriate graphical representations of data, including pictographs, bar graphs, histograms, line graphs, and pie charts CG-6 Develops mathematical thinking and the ability to logically and precisely communicate mathematical ideas. C-6.1 Applies both inductive and deductive logic to formulate definitions and conjectures, evaluates and produces convincing arguments/proofs to turn these definitions and conjectures into theorems or correct statements, particularly in the areas of algebra, elementary number theory, and geometry CG-7 Engages with puzzles and mathematical problems and develops own creative methods and strategies to solve them. C-7.1 Applies creativity to develop one's own solutions to puzzles and other problems and appreciates the work of others to develop their own solutions. C-7.2 Engages in and appreciates the artistry and aesthetics of puzzle-making, puzzle-posing, and puzzle-solving. CG-8 Knows and appreciates the development of mathematical ideas over human history, and the contributions of past and modern mathematicians from India and across the world.	Pythagoras triples • applies Baudhāyana-Pythagoras theorem in daily life	verify Baudhāyana-Pythagoras Theorem for the same • Real measurement of length/height using Pythagoras Theorem
Chapter 3 PROPORTIONAL REASONING-2	Proportionality — A Quick Recap, Supercells, Ratios in Maps, Ratios with More than 2 Terms, Dividing a Whole in a Given Ratio, A Slice of the Pie, Inverse Proportions		The learner : • Expresses quantities in their surroundings into ratio • represents given information through Pie chart • identifies direct or inverse proportions in a given situation	• represent the time spend by you on sleeping, eating, playing, watching TV, household works in the form of pie-chart • Check how the required amount of water for bathing changes when number of persons increases in your family • Also find out how this quantity changes when fixed amount of water is available.
Chapter 4 EXPLORING SOME GEOMETRIC THEMES	Fractals, Visualising Solids, Shortest Paths on a Cube, Representation of Solids on a Plane Surface, Isometric Projections, Drawing on Isometric Grids		The learner : • observes geometric pattern in nature • creates designs using geometric patterns • visualizes objects from different sides • describes isometric projections	• Discover fractals in nature and in your surroundings • Visualize solids from different sides • Cut different shapes to obtain its net • Draw Isometric projections of different solids using isometric grid paper

Chapter 5 TALES BY DOTS AND LINES	The Balancing Act, Mean and Median with Frequencies, Spreadsheets, Visualising and Interpreting Data, Infographics, Data Story: Sleepy-Deepy	C-8.1 Recognises important mathematical contributions of India (e.g., zero, Indian numerals, ideas around infinity, concepts of algebra, etc.) as well as the contributions of specific Indian mathematicians (such as Baudhayana, Panini, Pingala, Aryabhata, Brahmagupta, Virahanka, Bhaskara, Madhava, and Ramanujan). C-8.2 Recognizes and appreciates how concepts (like the notion of number, from counting numbers, to 0, to negative numbers, to rational evolved over a period of time across different civilizations CG-9 Develops basic skills and capacities of computational thinking, namely, decomposition, pattern recognition, data representation, generalization, abstraction, and algorithms, in order to solve problems where such techniques of computational thinking are effective. C-9.1 Approaches problems using programmatic thinking techniques such as iteration, symbolic representation, and logical operations and reformulates problems into series of ordered steps (algorithmic thinking). C-9.2 Identifies, analyses, and implements possible solutions to problems, with the goal of achieving the most efficient and effective combination of steps and resources and generalizes this process to a wide variety of problems	The learner : • Elaborates mean and median more precisely • Performs mathematical operations digitally • Draws and interpret line graphs	• Find mean age of students of your class • Divide your class into two groups and hence find median
Chapter 6 ALGEBRA PLAY	Algebra Play, Thinking about 'Think of a Number' Tricks, Number Pyramids, Fun with Grids, The Largest Product, Decoding Divisibility Tricks		The learner : • Creates number puzzles • Observe number patterns in surroundings • Applies algebra tricks in solving daily life problems	• Play any number trick with your friend
Chapter 7 AREA	Rectangle and Squares, Triangles, Triangles between Parallel Lines with a Common Base, Area of any Polygon, Parallelogram, Rhombus, Trapezium, Areas in Real Life		The learner : • Discovers that area of polygon can be found out by dividing it into different shapes • Finds area of different polygons in surroundings	• Form different shapes using matchsticks • Find area of your geometry box and desktop surface • Real life applications

- **The whole syllabus must be completed for Annual Examination by 30th January, 2027.**
- **Mental Maths & Maths Lab Activities**
- **Revision of whole syllabus for Annual Examination.**

ANNUAL EXAMINATION 2027

Note: The above said syllabus is for assessment purpose only. Other topics/chapters may be taught as Subject Learning Enrichment.